APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,667	12/13/2000	Kensaku Fujii	FUJR 17.936	5079

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EXAMINER
CHAWAN, VIJAY B

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/736,667	FUJII ET AL.
	Examiner	Art Unit
	Vijay B. Chawan	2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *12/13/01*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d),

which papers have been placed of record in the file.

Specification

2.   Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. The abstract of the disclosure is objected to because abstract is too long.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102

that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by

Honda et al., (4,538,234).

As per claim 1, Honda et al., teach a noise suppression apparatus comprising

a linear prediction analyzing circuit which includes:

an adaptive filter which produces a linear prediction signal based on a first

speech signal on which noise is superimposed, and outputs said linear prediction

signal as a second speech signal in which said noise is suppressed (Fig.3, item 8,

Col.4, lines 35-60);

a subtraction unit which obtains a difference between said linear prediction

signal and said first speech signal, and outputs said difference as a prediction error

(Fig.3, item 22, Col.4, lines 35-60); and,

a coefficient updating unit which updates coefficients of said adaptive filter

based on said first speech signal and said prediction error so as to minimize said

prediction error (Col.4, lines 35-60).

As per claim 2, Honda et al., teach a noise suppression apparatus comprising

a cascade connection of first to n-th linear prediction analyzing circuits, where n is

an integer greater than one, and each of said first to n-th linear prediction analyzing

circuits includes:

an adaptive filter which produces a linear prediction signal based on a first

speech signal on which noise is superimposed, and outputs said linear prediction

signal as a second speech signal in which said noise is suppressed (Fig.3, item 8,

Col.4, lines 35-60);

a subtraction unit which obtains a difference between said linear prediction

signal and said first speech signal, and outputs said difference as a prediction error

(Fig.3, item 22, Col.4, lines 35-60);

a coefficient updating unit which updates coefficients of said adaptive filter

based first speech signal and said prediction error so as to minimize said prediction

error (Col.4, lines 35-60); and,

said second speech signal output from said n-th linear prediction analyzing

circuit which is arranged in a final stage of said cascade connection is an output

signal of said noise suppression apparatus, and said second speech signal output

from each of said first to (n-1)-th linear prediction analyzing circuits is supplied to

one of the second to n-th linear prediction analyzing circuits whish is arranged in a

subsequent stage as said first speech signal (Col.5, lines 3-45).

As per claim 3, Honda et al., teach a noise suppression apparatus according

to claim 2, wherein each of said first to n-th linear prediction analyzing circuits

includes, a multiplier which obtains a product of said prediction error and a

predetermined constant, and, an adder which obtains as a third speech signal a

sum of said product and said linear prediction signal, and, said third speech signal

in said n-th linear prediction analyzing circuit, instead of said second speech signal,

is said output signal of said noise suppression apparatus, and said third speech

signal output from each of said first to (n-1)-th linear prediction analyzing circuits,

instead of said second speech signal, is supplied to one of said second to n-th

linear prediction analyzing circuits which is arranged in a subsequent stage as said

first speech signal (Col.10, line 48-59).

As per claim 4, Honda et al., teaches a noise suppression apparatus

according to claim 2, wherein each of said first to n-th linear prediction analyzing

circuits includes, an multiplier which obtains a product of said first speech signal

and a predetermined constant, and an adder which obtains as a third speech signal

a sum of product and said linear prediction signal, and said third speech signal in said n-th linear prediction analyzing circuit, instead of said second speech signal, is said output signal of said noise suppression apparatus, and said third speech signal output from each of said first to (n-1)-th linear prediction analyzing circuits, instead of said second speech signal, is supplied to one of said second to n-th linear prediction analyzing circuits which is arranged in a subsequent stage as said first speech signal (Col.10, line 48-59, Col.9, lines 8-66).

As per claim 5, Honda et al., teach a noise suppression apparatus comprising a linear prediction analyzing circuit which includes:

a lattice filter which produces a linear prediction signal based on a first speech signal on which noise is superimposed (Col.5, lines 27-44) and,

a subtraction unit which subtracts said linear prediction signal from said first speech signal, and outputs a remainder after subtraction, as a second speech signal in which said noise is suppressed (Fig.3, item 22, Col.4, lines 35-60).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taguchi (4,301,329) teaches noise suppression using linear predictor coefficients.

Bayya et al., (5,963,899) teach method and system for region based filtering of speech.

Fujii et al., (6,683,960) teach active noise control apparatus.

Copperi (4,860,355) teaches a method of and device for speech signal coding and decoding by parameter extraction and vector quantization techniques.

Park et al., (5,590,241) teach speech processing system and method for enhancing a speech signal in a noisy environment.

Eatwell (5,742,694) teaches a noise reduction filter.

Gao et al., (6,782,360) teach gain quantization for a CELP coder.

McCree (5,966,689) teaches adaptive filter and filtering method for low bit rate coding.

Arslan et al., (5,706,395) teach adaptive Weiner filtering using a dynamic suppression factor.

Sih et al., (5,920,834) teach an echo canceller with talk state determination to control speech processor functional elements in a digital telephone system.

Vis et al., (5,806,025) teach a method and system for adaptive filtering of speech signals using signal-to-noise ratio to choose subband filter bank.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vijay B. Chawan whose telephone number is

(703) 305-3836. The examiner can normally be reached on Monday Through

Thursday 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The

fax phone number for the organization where this application or proceeding is

assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vijay B. Chawan
Primary Examiner
Art Unit 2654

vbc
9/21/04

**VIJAY CHAWAN
PRIMARY EXAMINER**